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REMARKS

Claims 1-3, 5, and 11-17 are pending after this amendment adds new claims 12-17. No new matter is added by the new claims, which find support throughout the specification and figures. In particular, the amendments to the claims are supported at page 8, lines 13-26, of the specification. In view of the amendments and the following remarks, reconsideration of the instant application is respectfully requested.

The Examiner has not acknowledged the claim of priority and receipt of the priority documents in the present application, which were submitted with the original application on October 29, 2003. Applicants respectfully request acknowledgement of the priority claim and the submission in the next Office communication.

Claims 1, 5, and 11 are rejected under 35 U.S.C. 102(b) as being unpatentable over United States Patent No. 4,011,580 to Kasperkovitz (hereinafter referred to as Kasperkovitz). Applicants respectfully traverse.

Claim 1 relates to a semiconductor integrated circuit that includes, inter alia, a *silicon substrate* and a *silicon epitaxial layer that touches the surface of said silicon substrate and has a lower resistivity than the resistivity of said silicon substrate*. The semiconductor integrated circuit of claim 1 also includes first and second circuit sections formed in said silicon epitaxial layer and a device isolation region projecting from said silicon substrate up to a surface of each of said first and second circuit sections between said first and second circuit sections.

The Examiner asserts that figure 2 of Kasperkovitz discloses the structure of claim 1. The Examiner asserts that element 3 is a silicon substrate, element 2 discloses a silicon epitaxial layer, and elements R1 and R2 disclose first and second circuit sections. These features are discussed in Kasperkovitz at col. 2, line 57 to col. 3, line 6. Element 6 of Kasperkovitz

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apparently illustrates an isolation zone that extends to the surface of the substrate (Kasperkovitz; col. 2, lines 63-68). However, the Examiner admits that there is no disclosure in Kasperkovitz that the epitaxial layer has a lower resistivity than the substrate, but asserts that this is inherently disclosed due to the heavy doping of the epitaxial layer (Office Action; page 2, 14-17). However, Kasperkovitz does not identically disclose the feature of the epitaxial layer having a lower resistivity than the substrate, and *such lower resistivity is not inherently disclosed* by the compositions discussed in Kasperkovitz. In order for a reference to inherently disclose a feature, the feature must necessarily follow from the disclosure. The Examiner relies on a purported disclosure relating to heavy doping of the epitaxial layer. However the Examiner recognizes that the claimed relative resistivity does not necessarily follow from the Kasperkovitz disclosure by stating that "Although, Kasperkovitz does not explicitly disclose the epitaxial layer has a lower resistivity than the substrate *it is likely that this is the case* because of the heavy dopings of the epitaxial layer." (Office Action; page 2, lines 14-17; emphasis added). Even if the purported relative resistivity is likely, which is respectfully not conceded, this is an admission that such a case is not inherent. There is no disclosure in Kasperkovitz, nor even an allegation in the Office Action, relating to the doping of the substrate, and therefore the reference is silent with respect to the resistivity of the substrate. Therefore, there is no disclosure as to the *relative resistivity* of the substrate and the epitaxial layer.

The Examiner also asserts that it would have been obvious to adjust the relative resistivity of the silicon epitaxial layer. However, there is no suggestion in Kasperkovitz that would suggest modifying the reference to meet the limitations of claim 1. The modification of the reference is improperly based on hindsight reasoning since there is no proper motivation, based on the reference, provided in the Office Action. Kasperkovitz does not identically disclose,

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or even suggest, the feature of the epitaxial layer having a lower resistivity than the substrate, and such lower resistivity is not inherently disclosed by the compositions discussed in Kasperkovitz. Since there is no discussion of the *relative resistivity* of the substrate and the epitaxial layer in Kasperkovitz, this feature of claim 1 is not disclosed or suggested by Kasperkovitz.

Claims 5 and 11 are allowable based on their dependence on claim 1. Additionally, the rejection of claim 5, which is indicated by the Examiner as claim 11 in the Office Action at page 3, line 3, merely states that a resistor, as in Kasperkovitz, may be either a digital or an analog circuit. However, this is incorrect since a resistor alone does not disclose or suggest a digital circuit, as claimed. Therefore claim 5 is allowable for at least this additional reason.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasperkovitz. Applicants respectfully traverse.

The Examiner admits in the rejection of dependent claim 2 that Kasperkovitz does not disclose the feature of the ratio of resistivity of the silicon substrate being 20 to 100 times the resistivity of the silicon epitaxial layer. The Examiner asserts that such a feature would have been obvious and within the ability of one skilled in the art. (Office Action; page 3, section 3). However, the particular resistivity of the present invention as recited in claim 2 has the advantage recited in the specification, and presented in the previous amendment, that:

noise electric current flowing in the support substrate is effectively inhibited while the resistivity of the semiconductor layer is maintained in a range where the platform of the conventional device process can be used.

(Specification; page 6, lines 11-15). This effect is also shown in figure 4 of the present application. Kasperkovitz does not disclose the lower resistivity in the epitaxial layer with respect to the silicon substrate, and the particular resistivity has the specific advantage recited in

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the specification quoted above. Therefore, the modification of Kasperkovitz asserted by the Examiner in the rejection of claim 2 results from improper hindsight reasoning.

Additionally, the Examiner asserts that the motivation to modify the resistivity of the layers is to "choose how much resistance [is] needed for the device or devices formed in the epitaxial layer" (Office Action; page 3, lines 1-2 and 9-12; citing Kasperkovitz; col. 3, lines 46-47 and col. 4, lines 34-36). However, the cited sections of Kasperkovitz apparently only relate to a desired resistance value and a resistance value that may be influenced. However, there is no suggestion to modify Kasperkovitz to arrive at the feature of claim 2 of a *specific relative resistivity*, and therefore the modification of Kasperkovitz asserted by the Examiner results from improper hindsight reasoning. Therefore, for at least this additional reason, claim 2 is not rendered unpatentable by Kasperkovitz.

Claim 3 depends from claim 2 and is therefore allowable for at least the same reasons as claim 2 is allowable.

New claims 12-17 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable. Additionally, each of these claims recites a feature not disclosed or suggested in any of the previously cited references. Therefore, for at least this additional reason, the new claims are allowable.

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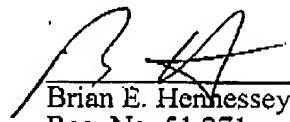
An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that independent claim 1 is in condition for allowance, as well as those claims dependent therefrom. Passage of this case to allowance is earnestly solicited.

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However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,


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